

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

Dairy Div
LIBRARY

UNITED STATES DEPARTMENT OF AGRICULTURE



FARMERS' BULLETIN



Has been rev.
--see rev.ed.
binders at
end of file.

WASHINGTON, D. C.

661

APRIL 24, 1915

Contribution from the Bureau of Plant Industry, Wm. A. Taylor, Chief.

A METHOD OF ANALYZING THE FARM BUSINESS.

By E. H. THOMSON, *Agriculturist*, and H. M. DIXON, *Scientific Assistant,
Office of Farm Management*.

INTRODUCTION.

This bulletin furnishes outlines of a method for analyzing the farm business to determine the investment, receipts, expenses, and labor income. Its purpose is to help the farmer understand the financial side of his business. Farmers have sometimes been unjustly criticized for knowing little about the business side of their work. The fact is that they usually have the details sufficiently in mind, but they are not always able to summarize and bring them together into a concrete statement.

In the work of the Office of Farm Management several thousand farms have been studied by this method, the object being to analyze their operations from a business standpoint and thereby learn some of the most important reasons for their success or failure. Experience shows that it is not possible to distinguish profitable farms by casual observation. Where a farmer is operating a large business, even a low rate of interest without any wages for himself would bring in sufficient funds to give a prosperous appearance to the farm. But a farm can not properly be called successful unless it pays a fair rate of interest on the investment, returns fair wages for the farmer's labor, and maintains at the same time the fertility of the soil. A better realization of the fact that the farm is a complex business subject to certain economic laws is one of the greatest benefits to be derived from such a study as is outlined in this bulletin.

Farmers already know that the gain from a big business should be more than from a small one, that good cows are more profitable than

NOTE.—In this bulletin a method is outlined for an analysis of the farm business to determine the investment, receipts, expenses, and labor income involved.

poor ones, and that good crops are more desirable than those which do not pay for harvesting. The real difficulty is that the farmer has had no convenient way of measuring just how good or how poor his business really was, i. e., he has had no way of measuring its efficiency. With the facts that are made available by such an analysis as is here provided, he can more readily find the strong and the weak points in his system of management and thus make improvements with some confidence in the results.

The method of farm analysis given in this bulletin is that which has been used in the Office of Farm Management for a number of years in the study of the business of farming. Many of the items to be recorded may appear to be rough estimates, but those who undertake studies of this kind on a large scale will be surprised to find how intimately most farmers know the details of their business when it is analyzed into the elements that correspond to the terms in which the farmer thinks when studying his business. A farmer may not know offhand what his total farm income is, but he does know with considerable accuracy the facts necessary to determine this income. It is important also to remember that the final result of the analysis of a farm business is determined mainly by a few large items which the farmer does know quite accurately. Variations in the numerous small items are as likely to be above as below the correct values and hence tend to balance each other. A variation of a few dollars in the final result is not a matter of great importance and would not seriously affect the conclusions to be drawn as to the profitability or unprofitableness of the farm business.

The blanks used in this form of analysis will not only be useful to farmers in analyzing their own business, but will be especially helpful to teachers in agricultural high schools, as well as to county agents and other extension workers. Teachers can furnish their students with copies and have each obtain a record of his own home farm. These records can then be summarized and thus furnish valuable information, not only to the teacher, but to the student as well, concerning the profitability of the prevailing local types of farming. Farm-bureau men can hold farmers' meetings at which each farmer will be furnished with a copy of the blank to figure out his own labor income. Later meetings may be devoted to a discussion of the results. Work of this kind will reveal the true status of the local agriculture, and show the real problems confronting the farmers. The information these blanks will give when filled out properly should lead to a helpful discussion of many problems in farm management. The blanks can also be filled in by individual farmers and sent to the State agricultural college or to the United States Department of Agriculture for suggestions regarding possible improvements in their system of operation. Since more than one-third of the farms in this country are

operated by tenants, the blanks have been designed for use in analyzing the business of a farm operated by either the owner or a tenant.

FARM ACCOUNTS.

In making a record of the farm business, the need of some accounts will be evident if the labor income is to be determined accurately. Studies covering a large number of farms show that farmers keep many of the more important records. Some men will need accounts on the amount expended for labor, others on the amount paid for feed, and others on the amount of crops marketed or eggs sold. A memorandum of such items will prove especially valuable when summarizing the year's business. The problem of farm accounting is not a question of a particular kind of form or blank, but of knowing what accounts to keep and what use to make of them. This method of farm analysis will suggest such accounts as are needed.

METHOD OF FARM ANALYSIS.

The blank forms outlined on pages 17 to 26 have been prepared for use in determining the net income from the farm business. It is evident that the wide variation in the kinds of farming carried on in different parts of the country renders it impossible to devise a single set of blanks that will meet all conditions. The forms must therefore be general. For certain types of farming it will be necessary to insert items not printed in the blank forms.

FARM YEAR.

The period covered by such a record as is outlined in this bulletin is known as the farm year (blank form, p. 17). The date when this year begins varies from March 1 or April 1 in the Northern States to January 1 in the Southern States, and even to October 1 in some of the Western States. It corresponds to the date on which tenants change farms.

FARM TENURE.

For the purpose of this study a farm is understood to be all the land operated as one unit. It may consist of both owned and rented land, if all this area is operated by one set of machinery, horses, workmen, etc. In the case of a man owning two farms operated independently, each should be considered as a separate farm. As the blanks are designed for both tenant and owner farms, there are two columns under most headings. The operator is the person who lives on the farm and actually works it. Thus, if the owner works the farm he is the operator; but if the farm is rented the owner is the landlord and the tenant is the operator. A man owning one farm and renting additional land, all of which is operated as one farm, is classed as an owner operator.

FARM AREA.

The item "Total acres operated" (blank form, p. 17), includes all the land operated as one farm; and the number of acres that are owned, share-rented, or cash-rented should be shown under the proper headings. The total area operated is separated into four divisions, namely, (1) acres in woods; (2) acres in roads, building lots, etc.; (3) acres in pasture, and (4) acres in crops. Where more than one crop is grown on the land during the year the acreage this crop used should be counted once only in arriving at the acres in crops.

CROP RECORD.

The blank form for the crop record is shown on pages 18 and 19. Certain crops which are not listed will be grown in many parts of the country. These can easily be written in, using the blank spaces or the places of the names of crops not grown in the locality. The sum of the acres in the several crops should equal the "Acres in crops" shown on page 17. If a second crop is grown on a field during the year it is well to inclose its area in a circle, to save confusion when adding up the area in crops. Under sales all amounts sold from the farm or held for sale should be entered. Crops fed to live stock on the farm would not be counted as a sale. Crops on hand from the previous year which are held for sale need not be considered, as they do not belong to this year's business, but crops on hand from the previous year held for feed must be considered under "Feed and supplies" (p. 24).

On tenant farms, the tenant's crop sales and crops held by him for sale are listed under the heading "Operator's sales," while the landlord's crop sales, including the crops held by him for sale, are placed under the heading "Landlord's sales." Where the landlord transfers his share of the crops to be fed on another farm, the value of these should be credited as a sale on the account of the farm from which they are removed. Where men own and operate their farms and rent additional land, the sales from the crops on their own farms and their share of those on the rented land come under the heading "Operator's sales." The "Landlord's sales" columns should not be used except on share-rented farms and then only when the landlord's income is desired.

LIVE-STOCK RECORD.

The blank form for the live-stock record is shown on pages 20 and 21. This needs very careful attention. It includes a record of the number and value of all live stock on hand at the beginning and at the end of the year, all sales and purchases made during the year, and the number that died during the year. There will be a variation according to the number bought, sold, or raised. The number on hand at the

beginning of the year, plus the number purchased and the number raised, must equal the number on hand at the end of the year, plus the number sold and the number that have died. It often happens that the number of dairy cows is increased the second year by the addition of heifers which were counted as yearlings in the first inventory. In the same way spring calves which might not appear at all in the first inventory would be counted as yearlings at the end of the year. Again, the calves born and sold during the year will not appear in either inventory, but they will appear in the sales. This holds equally true for all the classes of live stock. In estimating the value of live stock, market values at the time should be used. On all farms except where the landlord owns a share of the live stock, the record is made under the heading "Operator's stock."

LIVE-STOCK SUMMARY.

The space under the heading "Live-stock summary" (p. 22) is for a concise statement of the live-stock enterprise. Add the total of the receipts from stock products, sales of live stock, and the inventory value of the live stock at the end of the year. From this sum subtract the amount paid for purchases plus the inventory value at the beginning of the year. The result will give the "Net increase" for the live-stock part of the farm business.

RECEIPTS.

Stock products.—The receipts from live-stock products, such as milk, butter, eggs, and wool, should be entered in the spaces of the first form on page 22. These include the value of all products sold from the farm. They do not include the value of milk, eggs, butter, or meat used in the farm home. If eggs or other products are exchanged for supplies, their value should be counted as a sale.

Miscellaneous sources.—Under "Receipts, miscellaneous sources" (p. 22), such items as money received for teaming, machine work for neighbors, and the like are placed. If there is a tenant house on the farm which is rented to some person not connected with the farm, the rent from this should be considered a receipt, provided the value of this house is counted as a part of the farm real-estate value. Where a large quantity of lumber is sold during any one year, credit should be allowed for only the amount which would normally be sold each year.

CURRENT EXPENSES.

The items of farm expense will vary widely, according to the kind of farming followed and the region. The list of items given on page 23 may not be complete for all farms, and important items should be written in if they are not listed. The third item, relating to board of both regular and extra help, includes the expense for its preparation

and that part of the board purchased, i. e., no expense for the part of the board that the farm furnishes should be charged against the farm. If such a charge is made, it is necessary to credit the farm with those products used in the farm living. This method would mean extra work and considerable estimating; hence, it is not believed desirable, particularly as the labor income will be the same in either case. The cost of preparation and the proportion of the board ordinarily purchased in the form of groceries, meats, etc., varies from one-third to two-thirds of the total value of the board. The value of unpaid family labor is counted as part of the farm expenses, the same as is hired labor. This refers to farm work only and not to household labor. The value of the operator's or farmer's own labor should not be included. (See form on page 23 for this item.) The board chargeable for family labor is figured on the same basis as for hired labor.

Labor expended in the construction of new buildings, tile drains, or other permanent improvements should be included with the expense for materials under the items "New buildings," "Tile drains," etc. (p. 23), and should not be listed under the labor items at the top of the preceding form. The item of depreciation on fences is included in "Repair of fences" under "Current expenses" (p. 23).

DEPRECIATION OF EQUIPMENT AND BUILDINGS.

In addition to the current farm expenses there are certain other items, such as depreciation, which may be called fixed charges. These occur on all farms to a greater or less extent. Buildings may be constructed so that they will last for 100 years, or they may have to be rebuilt every 25 or 30 years. The life of machinery depends on the care given and the extent to which it is used. Although there is no appreciable expense each year, these buildings and machines eventually have to be replaced. It is proper that a proportionate share of this replacement cost should be charged against the farm each year; otherwise, whenever a new barn or dwelling is built the entire cost of this building would have to be charged against the business for that particular year. Depreciation charges, therefore, are merely a method of uniformly distributing these costs over the period of years that they are in use.

The annual depreciation on buildings will vary from less than 1 per cent on very substantial stone or brick buildings to as high as 3 or 4 per cent on frame buildings. The rate of depreciation on machinery will vary from 5 to 20 per cent, depending on the implement and the way it is used. Probably from 7 to 12 per cent a year would be approximately correct for most farms. The amount of depreciation that should be charged each year as an expense (p. 23) is left to the judgment of the person making the record. No set rules can be given, as no two farms are exactly alike in this respect.

PERMANENT IMPROVEMENTS AND NEW EQUIPMENT.

The spaces under the heading "Improvements" are for enumerating the cost of new buildings, fences, tile drains, and machinery. In computing the farmer's income it is not necessary to take expenditures for permanent improvements into account, because if they are included at all they appear both in the expense items and in the inventory items showing an increase and the entries cancel each other in the final calculations. The record of such improvements may therefore be treated as a memorandum for future reference, but it is not to be used in calculating the year's profits or losses.

LIST OF MACHINERY.

The blank form on page 24 is designed to cover all farm implements. The value stated for each machine should be a fair price for it, according to its condition at the beginning of the farm year. This price should not represent what it might sell for, but its value compared with a new machine. New implements purchased during the season should be listed under "Improvements" (p. 23) and not under "Current expenses." As the list of machinery is general, there will be some items of equipment on certain farms which are not given in this enumeration. These should be inserted at convenient places.

FEED AND SUPPLIES.

The quantity of feed and supplies on hand at the beginning and at the end of the year is important, as any increase or decrease in this represents a gain or loss (p. 24). This quantity will vary according to the time the farm year begins. Thus, if it begins on April 1, ordinarily only enough roughage or grain will be on hand to last until the new crops are harvested. As previously stated, grains or hay held for sale are not included with those held for feeding purposes. The reasons for accounting for these items of feed and supplies are that they form a part of the farm investment, and also represent an increased or decreased item of income in the year's business.

FARM CAPITAL.

Farm capital, or farm investment, includes the total value of all land, buildings, live stock, tools, machinery, feed, supplies, and cash to run the business. The several steps to be observed in using the form shown on page 25 are given below:

Real estate.—Under real estate is included the value of the land, buildings, fences, and water supply. Normal farm values should be used and not high speculative prices or assessed valuations. Using values that are too high or too low causes results which may look well on paper, but which are of no use to the owner. If the farm is mort-

gaged, no account of this should be taken, as the total farm investment is wanted and not how much of it is actually owned.

Live stock.—For the item of live stock, the total inventory value of live stock at the beginning of the year should be transferred from page 22.

Machinery.—The value of the farm machinery for the beginning of the year is brought forward from the total on page 24.

Feed and supplies.—For the item of feed and supplies the total for the beginning of the year should be transferred from page 24.

Cash.—The item of cash to run the farm varies widely on different farms. It should represent the average amount of money the farmer has on hand at all times during the year for the purpose of paying current expenses, in other words, the average of his checking account. On a dairy farm, this amount would be about equal to the milk or cream check. On a tobacco or cotton farm, where there is only one crop and no money coming in except at one time, it would mean a sum nearly equal to the entire year's running expenses. The amount of cash necessary to run the business will range from \$25 to \$100 on most farms.

The final step is to add together these five items, in order to obtain the total of the farm investment.

FARM SUMMARY.

The blank form on page 25 is for a summary of the farm business. The items for this summary are taken from the totals in the preceding forms, as follows:

Capital.—The total farm capital, from the form immediately preceding, is the first item. This is the farm investment on which interest should be charged.

Receipts.—Under receipts, enter these totals: Crop sales, from page 19; live stock net increase, from page 22; receipts, miscellaneous sources, from page 22; and the increase, if there is any, in feed and supplies, from page 24. The sum of these four groups represents the total of the farm receipts.

Expenses.—Under expenses, enter these totals: Current expenses, from page 23; depreciation, from page 23; and decrease in feed and supplies, if any, as noted on page 24. The sum of these three groups represents the total farm expenses.

Farm income.—Subtract the total expenses from the total receipts. This will give the net farm income, which is the money received for the use of the capital and pay for the operator's labor. But capital has an earning power, which at least equals the current rate of interest on well-secured farm loans. Interest at this rate should be deducted.

Labor income.—Subtracting the amount of this interest from the farm income gives the farmer's labor income.

The labor income represents the amount of money the farmer has left after paying all business expenses of the farm and deducting interest on the money invested in the farm business. In addition to the labor income the farmer has the use of the farmhouse and the products that are furnished by the farm toward his living, such as fruit, garden vegetables, dairy products, and fuel. In other words, the labor income is comparable with a hired man's wages when the hired man gets a house and garden and some farm products.

The difference between receipts and expenses, or farm income, will not necessarily correspond to the money on hand or in the bank, as personal and living expenses have to be paid out of this amount. Furthermore, in the case of farmers having mortgages or other debts, the interest on these, as well as any principal paid, must come out of the farm income. Therefore, the record of the farm business may show a fairly large difference between the receipts and expenses, and yet the farmer may not have any money to show for it at the end of the year, owing to the fact that the funds have been spent for living or for personal uses or have been put into other investments, such as insurance and paying off the mortgage. The object of this record is to analyze the farm business; that is, to ascertain how much the farmer makes, not to determine how much he actually saves. Having learned what the farm is returning, the responsibility rests with the farmer as to how much he spends personally or uses in other ways.

COMPARISON OF THE FARMER'S LABOR INCOME WITH THE SALARIES OF CITY MEN.

The farmer's labor income can not be compared with the salary that the city man receives. In the first place, the farmer's business and home are very closely associated. There is a large proportion of his living for which the farmer does not have to pay cash. The value of house rent and the products contributed by the farm, such as garden vegetables, milk, etc., are important items for which the city man must pay out a large proportion of his income. Moreover, the farmer is not a mere laborer. He has money invested, and he is entitled to interest on his investment as well as pay for directing a business; whereas the city man who works for a salary places his funds in a residence or some other form of investment not associated with his work. The salaries city men receive look very large to the farmer, while the labor income that the farmer receives looks small to the city man when all these other factors are not given proper consideration. It may seem strange that a farmer with a small or even a minus labor income may still live comfortably. Even 2 or 3 per cent on his investment, if the latter is sufficiently large, may represent a good living, particularly if the farmer is free from debt. On the other hand, if the farm income—that is, the difference between receipts and expenses—is a minus quantity, then the farmer must soon have other means of support.

MEASURES OF FARM EFFICIENCY.

There are certain factors on which the success of a farm business usually depends. From these it is usually possible to determine not only the good points in a system of farming, but also its deficiencies. The latter being known, the method of improving the system becomes evident.

On a great majority of farms, success is primarily dependent on three important factors. These are (1) the size of the farm business; (2) the yields of the crops and the returns per animal, representing the quality of the farm business; and (3) the diversity of the business. Of course many other things have their influence, but the farmer whose business is efficient in these three respects is generally successful. Those farms that are excellent in none of these respects almost universally fail. Those deficient in one or two may succeed, but their chances of success are greatly lessened.

SIZE OF THE FARM BUSINESS.

There are three ways of measuring the size of the farm business: (1) The amount of capital invested, particularly working capital; (2) the area in crops; (3) the number of day's labor required in the operation of the farm. The last measure is best, especially in comparing different types of farming. Forty acres of truck and general crops may, under suitable conditions, equal a 200-acre farm devoted to grain and hay, both as to labor required and income received.

There is reason to believe that more farmers have meager incomes because of the smallness of the business conducted than from any other cause. So many deceive themselves into thinking that their farms keep them busy the entire year, when, as a matter of fact, the actual results accomplished represent less than a half year's work. An acre of hay normally requires 10 hours of man labor, or approximately one day's work for each cutting; an acre of wheat, 20 hours; an acre of potatoes, 80 to 110 hours; caring for and feeding a dairy cow, about 150 hours per year. Only about 250 to 275 days are actually available for productive work. Much time is lost in odds and ends about the farm which take time but really count for little. A farmer may keep busy the whole year, but if he has accomplished during that time only such work as should normally be done in 200 days his wages will be in proportion. Farming, just as any other business, will not pay for inefficient labor. Work that creates something of value is what counts on the farm.

WAYS OF INCREASING THE SIZE OF THE FARM BUSINESS.

There are several ways of increasing the size of the farm business:

(1) The buying or renting of more land. A man who owns a small area can often rent additional land which adjoins his farm. This practice is followed by many farmers, especially in the Central States.

It permits the use of a larger area with comparatively little additional capital. More land gives more work and permits a better utilization of labor and equipment.

(2) The growing of crops requiring more labor; that is, following a more intensive form of farming. A hundred acres devoted to corn, oats, wheat, etc., which would not be sufficient to keep two men busy, can easily be increased to a full 2-man farm by the addition of a few acres of such crops as beets, potatoes, or fruit. The profitable production of these crops will depend on whether there is a market for them. A great many persons have made the mistake of buying a small area, with the idea of following an intensive type of agriculture in localities where there is no market for the products of such farming. The fact that land is adapted to truck crops is not sufficient justification for attempting to grow them. There must be the possibility of disposing of the products at remunerative prices.

(3) The putting of more labor on the same crops, as well as taking better care of the live stock. But it is easily possible to overdo the matter in this respect. In applying labor to any enterprise a point is reached beyond which it will not pay to go.

(4) The addition of more live stock, even beyond the point where the farm itself will support them. This necessitates the purchase of feed and is a practice followed by a large number of dairy farmers in some of the Eastern States, where the nature of the land is such as to prohibit the raising of grain as cheaply as it can be bought. In using this method of increasing the size of the farm business only loss will result unless the additional animals are of high-producing quality. This is the one way open to many farmers whose business would otherwise be too small to give them a good living. The success of many farms is in large measure dependent upon the number of cows or live stock that can be kept.

(5) The doing of outside work, such as teaming or working at lumbering during the winter. In many farming regions there is no opportunity for this source of income.

No one realizes better than the farmer that as a rule no phenomenal profits can be expected, and persons going into farming as a business must remember this fact. Agriculture is a good life work; it will pay living wages and moderate returns on an investment, provided both capital and labor are wisely expended. Success is most difficult to attain, however, unless the farm business is large enough to permit the efficient use of both capital and labor.

EFFICIENCY OF LABOR.

Owing to the exceedingly diverse nature of farm operations there is abundant opportunity for inefficiency to enter into their performance. In a factory with modern machinery a man is expected to do a certain amount of work. He is aided in doing this by standard

machinery, which in many instances sets the pace for him. On the farm it is different; there are but few standards of farm labor, few measures of how much work a man should do in a day. Generally the worker must be his own boss and must set his own pace. He must also work under most adverse weather conditions at certain times. It is perfectly evident that innumerable factors will influence the time required for most operations. They can not be standardized as work is in a factory. Some men are naturally slow and take twice as much time as others to do certain kinds of farm work. There has been considerable investigation of this subject, but not enough to give reliable standards of farm labor for all conditions. Table I gives approximate standards for average conditions for certain classes of work. These, or such modifications of them as local experience may render advisable, may be used in working out the approximate amount of both man and horse labor required to operate a given farm.

TABLE I.—*Approximate work units needed for the production of crops and in caring for live stock, etc., a work unit being a 10-hour day of man or horse labor.*

Operation.	Work units (10-hour days).	
	Man.	Horse.
Production of crops (per acre):		
Timothy, alfalfa, and clover hay, per cutting.....	1	1
Oats, wheat, barley, rye, buckwheat, and millet.....	2	3
Corn husked from standing stalks, corn-belt States.....	2 to 3	5
Corn husked from shock.....	6	6
Corn for silo.....	4 to 6	5 to 7
Corn husked, Southern States.....	3 to 4	3 to 4
Potatoes.....	8 to 12	10
Cotton.....	8 to 12	4 to 6
Sugar beets.....	7	7
Melons.....	4	2
Cabbage.....	13	12
Peanuts.....	3	1
Sorghum sown broadcast, cut for hay.....	4	4
Tobacco.....	20	7
Field beans.....	5	5
Apples.....	15	5
Caring for live stock (per year):		
Horses, corn-belt States.....	8	$\frac{1}{2}$
Horses, Eastern States.....	12	$\frac{1}{2}$
Dairy cows.....	15 to 20	1 to 2
Young stock, cattle, colts, etc.....	$2\frac{1}{2}$ to 3	$\frac{1}{2}$
Ten hogs, corn-belt States.....	10	$\frac{1}{2}$
Ten hogs, Eastern States.....	20	2
Ten brood sows and raising pigs to weaning.....	30	5
100 ewes.....	50	5
100 chickens (well cared for).....	15 to 25	1

RECEIPTS FROM LIVE STOCK.

The importance of having efficient live stock is well understood. By efficient animals is meant those that will more than pay for the cost of keeping. On the majority of farms, except in the Southern and certain of the Western States, more of the crops are fed to live stock than are sold direct. In fact, on many farms none of the feedable crops are sold. The animals are then the market, and the price

they return for these crops is measured by their efficiency. The best of corn crops and hay count for little when sold to animals that return much below market prices for them.

DIVERSITY OF FARM ENTERPRISES.

In most cases where studies on the profits in farming have been made, particularly in our oldest agricultural districts, such studies indicate that the most successful farms are those which have from two to four major sources of income; i. e., they have a well-balanced and diversified business. In certain instances it may pay better to have only one enterprise, but usually when one crop pays much better than all others the production of it increases rapidly and soon the price falls to the point where other crops or products are equally as profitable. Diversified farming is often confused with farming where there is a little of everything and not much of anything. Either extreme lessens the chances of success. When the price of certain crops is very low then live stock usually becomes desirable. However, if the returns per animal are poor, cash crops even at a low price are essential. A well-balanced business insures against losses and provides a much better utilization of the labor and equipment.

BLANKS FOR USE IN ANALYZING THE FARM
BUSINESS AND DETERMINING THE
FARM INCOME.

15

83359°--Bull. 661°—15——2

FARM AREA.

State..... Farm year beginning....., 191..
Operator..... P. O. address.....
Landlord..... P. O. address.....
Township..... Miles to railroad.....
Location.....
Acres owned..... Acres cash rented.....
Acres share rented..... Total acres operated.....
Acres in woods..... Acres in roads, building lots, etc.....
Acres in pasture..... Acres in crops.....

CROP RECORD.

LIVE-STOCK RECORD

OPERATOR'S STOCK.

LANDLORD's STOCK.

Animals—kind.	Beginning of farm year.			End of farm year.			Sales.			Purchases.			Died.	No.
	No.	Value.	Total.	No.	Value.	Total.	No.	Value.	Total.	No.	Value.	Total.		
Cows.....														
Heifers.....														
Calves.....														
Bulls.....														
Steers.....														
Oxen.....														
Horses.....														
Mules.....														
Colts.....														
Ewes.....														
Lambs.....														
Brood sows.....														
Other hogs.....														
Pigs.....														
Chickens.....														
Turkeys.....														
Ducks.....														
Bees.....														
Total													Total	

RECEIPTS FROM STOCK PRODUCTS.

	Amount.	Price.	Operator.	Landlord.
Butter.....				
Creamery milk.....				
Market milk.....				
Cheese.....				
Wool.....				
Eggs.....				
Hides.....				
Honey.....				
Breeding fees.....				
Total				

LIVE-STOCK SUMMARY.

	Operator.	Landlord.
Stock products.....		
Stock sold.....		
Value of live stock at end of year.....		
Total	→	→
Live stock purchased.....		
Value of live stock at beginning of year.....		
Total	→	→
Live stock, net increase		

RECEIPTS, MISCELLANEOUS SOURCES.

	Amount.	Price.	Operator.	Landlord.
Labor.....				
Machine work.....				
Cash rent for.....				
Rent of buildings.....				
Sirup and sugar.....				
Lumber, posts, etc.....				
Total				

CURRENT EXPENSES.

	Operator.	Landlord.
Regular hired labor.....mo.		
Extra hired labor.....mo.		
Board hired labor.....mo.		
Family labor.....mo.		
Board of family labor.....		
Repair of machinery.....		
Repair of buildings.....		
Repair of fences.....		
Feed: Hay, silage, etc.....		
Feed: Grain and concentrates.....		
Feed grinding.....		
Silo filling.....		
Corn shredding.....		
Milk hauling.....		
Horseshoeing.....		
Breeding fees.....		
Veterinary.....		
Seed, plants, trees.....		
Fertilizer, manure.....		
Spray materials.....		
Twine.....		
Thrashing.....		
Baling.....		
Machine work hired.....		
Fuel and oil for farm work.....		
Bags, barrels, crates.....		
Cotton ginning.....		
Insurance.....		
Taxes on farm property.....		
Water tax.....		
Cash rent.....		
Total.....		

Value of dwelling of tenant house.....		
Of other buildings Total buildings.....		
Estimated value of farmer's own labor.....		

IMPROVEMENTS.	Operator.	Landlord.
New buildings.....		
Fences.....		
Tile drains		
New machinery.....		

DEPRECIATION ON EQUIPMENT AND BUILDINGS.

Dwelling, .. per cent of value.....		
Other buildings, .. per cent of value.....		
Machinery, .. per cent of value.....		
Total.....		

LIST OF MACHINERY.

No.	Kind.	Value at beginning of year.	No.	Kind.	Value at beginning of year.
.....	Heavy wagons.....	.....	.....	Mowing machine.....	.....
.....	Light wagons.....	.....	.....	Hayrake .....	.....
.....	Pleasure wagons.....	.....	.....	Tedder.....	.....
.....	Sleighs.....	.....	.....	Hayfork and stacker.....	.....
.....	Walking plows.....	.....	.....	Manure spreader.....	.....
.....	Sulky plows.....	.....	.....	Corn shredder.....	.....
.....	Disk harrow.....	.....	.....	Ensilage cutter.....	.....
.....	Spike-tooth harrow.....	.....	.....	Corn sheller.....	.....
.....	Spring-tooth harrow.....	.....	.....	Potato planter.....	.....
.....	Roller.....	.....	.....	Potato sprayer.....	.....
.....	Weeder.....	.....	.....	Potato digger.....	.....
.....	Corn planter.....	.....	.....	Orchard sprayer.....	.....
.....	1-horse cultivator.....	.....	.....	Gasoline engines.....	.....
.....	2 or 3 horse cultivator.....	.....	.....	Dairy equipment.....	.....
.....	Corn binder.....	.....	.....	Poultry equipment.....	.....
.....	Grain binder.....	.....	.....	Evaporator.....	.....
.....	Grain drill.....	.....	.....	Harness.....	.....
.....	Hay loader.....	.....	.....	Minor equipment.....	.....
<hr/>					
Total.....					

FEED AND SUPPLIES.¹

	Beginning of farm year.			End of farm year.		
	Amount.	Price.	Value.	Amount.	Price.	Value.
Hay.....
Wheat.....
Oats.....
Corn.....
Straw.....
Silage.....
Seed.....
Other supplies.....
Total.....

Feed and supplies: Decrease..... Increase.....

¹ In case the landlord owns a share of the feed and supplies, make the proper division when transferring to the summary. If the total value of the feed and supplies on hand at the end of the year is greater than at the beginning, the difference is an increase; if less, a decrease.

CAPITAL.

	Beginning of farm year.	
	Operator.	Landlord.
Real estate (p. 7).....		
Live stock (p. 22).....		
Machinery (p. 24).....		
Feed and supplies (p. 24).....		
Cash.....		
Total.....		

SUMMARY.

	Operator.		Landlord.	
	Item.	Total.	Item.	Total.
Capital.....	→	_____	→	_____
Receipts from:				
Page 19, Crop sales.....	
Page 22, Live stock, net increase.....	
Page 22, Miscellaneous.....	
Page 24, Increase feed and supplies.	
Total receipts.....	→	_____	→	_____
Expenses:				
Page 23, Current.....	
Page 23, Depreciation.....	
Page 24, Decrease in feed.....	
Total expenses.....	→	_____	→	_____
Farm income.....	_____	_____	_____	_____
Interest on capital, ..per cent ¹			Per cent re- ceived on inves t- ment	_____
Farmer's labor income.....	_____	_____		

¹ Use current rate of interest on well-secured farm loans.

SOME TESTS OF FARM EFFICIENCY.

Number of crop acres per work horse
Number of months of man labor, including operator's.....
Number of man-labor years ¹
Number of crop acres per man ²
Percentage of total investment in real estate
Investment in buildings per crop acre.....
Number of animal units ³
Investment in barns per animal unit.....
Number of productive man-work units ⁴
Number of productive man-work units per man.....
Man-labor cost per productive work unit ⁵
Net receipts per animal unit ⁶
Value of feed consumed per animal unit ⁷
Milk receipts per cow.....

¹ Divide number of months of man labor by 12. This gives the number of man-labor years.

² Divide number of crop acres by number of man-labor years.

³ In figuring the amount of live stock on the farm, it is necessary to have some basis for comparing the different kinds of animals. One horse, cow, or steer is equivalent to one animal unit; two head of young stock (of the above kinds) are counted as one animal unit; 7 sheep, 14 lambs, 5 hogs, 10 pigs, or 100 chickens are each counted as one animal unit.

⁴ In order to have a basis for computing the time required for different farm operations, a normal day's labor of 10 hours is considered a work unit. See page 12 for table giving list of work units.

⁵ Find the cost of all farm labor, including value of operator's, and divide by the number of man-work units.

⁶ Divide the net increase under live-stock summary (p. 22) by the number of animal units, not including work horses.

⁷ Find the total at farm prices of the value of all crops fed, plus a charge for pasture, plus amount of feed bought, and plus or minus the difference in the feed inventory, and divide by the number of animal units.



